

9/30/16 "Perseverance is failing 19 times and succeeding the 20th."-Julie Andrews

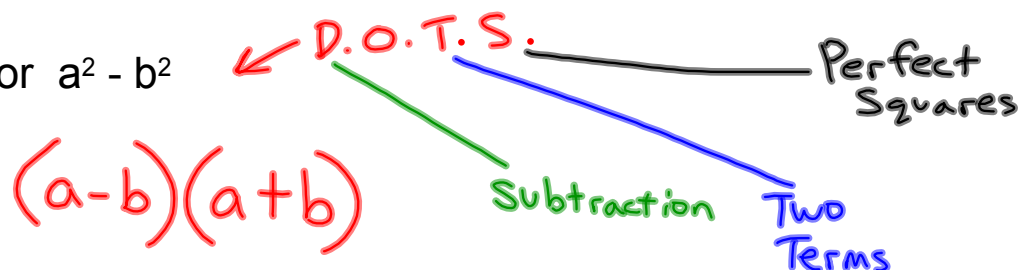
HW: "Review of Factoring" finish worksheet

TOPIC: MIT

AIM: Review of Factoring Completely

Warm Up:

1) Factor  $a^2 - b^2$



⊛ GCF (always try first)

• DOTS

• AM

• Grouping

⊛ "Factor Completely" means we will probably need to factor multiple times.

1. GCF: Look for all factors that are common to all terms of the polynomial, pull out the greatest common factor.
2. Difference of two squares: If the polynomial is a binomial, look to see if it is the difference of two squares.
3. Trinomials:  $ax^2 + bx + c$  If the polynomial is a trinomial then look at the leading coefficient,  $a$ .

If the leading coefficient is one ( $a = 1$ ), use the add multiply method. Look for numbers that multiply to  $c$  while adding to  $b$ .

If the leading coefficient is not equal to one ( $a \neq 1$ ) use factoring by trial and error or the AC method.

*The AC Method*

- a. Form the product  $ac$
- b. Find a pair of numbers whose product is  $ac$  and whose sum is  $b$
- c. Rewrite the polynomial so that the middle term ( $bx$ ) is written as the sum of the two terms whose coefficients are the two numbers found in step b
- d. Factor by grouping

4. Grouping: If the polynomial has 4 terms, try factoring by grouping.

$$2) \ 3y^2 - 48$$

$$3 (\underline{y^2 - 16}) \quad \text{GCF}$$

$$\boxed{3 (y-4)(y+4)} \quad \leftarrow \text{D.O.T.S.}$$

$$5) \ \frac{4a^2}{4} + \frac{16a}{4} + \frac{16}{4}$$

$$4 (a^{\textcircled{A}} + \underline{4a} + \underline{4}^{\textcircled{M}}) \quad \text{GCF}$$

$$\boxed{4 (a+2)(a+2)} \quad \text{AM Method}$$

$$6) \ -x^2 + 50x - 625$$

$$-1 (x^{\textcircled{A}} - \underline{50x} + \underline{625}^{\textcircled{M}}) \quad \text{GCF}$$

$$\boxed{-1 (x-25)(x-25)}$$

7)  $ax - bx + ay - by$

$$x(\underline{a-b}) + y(\underline{a-b})$$

$$(a-b)(x+y)$$

~~GCF~~  
~~DOTS~~  
~~AAA~~  
Grouping

Finish the  
Worksheet  
for Wednesday

10)  $3x^2 + 5x - 2$

11)  $12a^2b^2 - 3ab$